

WHAT IS CLAIMED IS:

1. In an energy recovery system comprising:
  - a) at least one gas turbine engine;
  - b) a compressed air stream that receives energy from the at least one gas turbine engine;
  - c) at least one intercooler that extracts the energy from the compressed air stream, and
  - d) at least one heating district:  
a working fluid circulating loop connecting the at least one intercooler and the at least one heating district to transfer the extracted energy from the at least one intercooler to the at least one heating district.
2. The system of Claim 1 wherein the energy delivered to the heating district is used for space heating.
3. The system of Claim 1 further comprising a reservoir of working fluid to be added, as needed, to the fluid circulating loop.
4. The system of Claim 1 wherein the fluid circulating loop is connected to at least one previously existing district heating system.
5. The system of Claim 1 wherein the system is connected to a district heating system having a plurality of sources of energy.
6. The system of Claim 1 wherein the working fluid comprises water.
7. The system of Claim 6 wherein the working fluid comprises steam.
8. A district heating system comprising at least one gas turbine engine, at least one intercooler for removing energy from the gas turbine engine, and at least one circulating loop for transferring the energy from the intercooler to a heating district.

9. The system of Claim 8 further comprising a working fluid in the circulating loop for transferring energy from the intercooler to the heating district.
10. The system of Claim 9 further comprising a reservoir of working fluid to be added, as needed, to the circulating loop.
11. The system of Claim 8 wherein the circulating loop is connected to a previously existing district heating system.
12. The system of Claim 8 wherein the district heating system has a plurality of energy sources.
13. The system of Claim 9 wherein the working fluid comprises steam.
14. A method for district heating using rejected heat from the intercooler of an intercooler equipped gas turbine engine, which comprises the step of: providing a fluid circulating loop to supply the rejected heat to at least one heating district.
15. A method for supplying energy to a district heating system, which comprises the steps of: (a) removing with at least one intercooler energy from the gas flow stream of at least one gas turbine engine; (b) heating a working fluid with the removed energy; and (c) circulating the heated fluid through at least one district heating system to provide energy thereto.
16. A method for controlling the ratio of heat energy to output shaft energy removed from an operating intercooled gas turbine engine, which comprises the step of: varying the amount of energy removed by at least one intercooler from a flowing gas stream of the gas turbine engine.